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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,761	02/03/2004	Edward James Cargill	58029-13C	8914

7590

04/04/2006

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EXAMINER

PICKARD, ALISON K

ART UNIT

PAPER NUMBER

3673

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/769,761

Applicant(s)

CARGILL, EDWARD JAMES

Examiner

Alison K. Pickard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 7-10, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Muller (4,729,569).

Muller discloses a seal assembly having a seal element 4 that seals a first side from a second side. The seal element 4 is a compressible material and is retained within a housing (e.g. 8 or 3). The seal and housing have mating planar surfaces (Fig. 1c shows seal can have planar sides, portions 32 in Fig. 2b are planar). The housing has at least one depression 31 isolated from adjacent depressions. A fluid pressure “p” is exposed to the seal on the second side and causes a force that presses the material of the seal into depressions 31 in the housing thereby restraining movement of the seal relative to the housing (e.g. col. 2, lines 21-24). As seen in Figures 4a or 7b, a “spring” 2 can preload the seal 11 or 9 into engagement.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (specification pages 1-2 and /or preamble of claim is Jepson style indicating that before "the improvement" is prior art) in view of Bent in view of Chrzanowski (4,703,937).

Applicant discloses a known sealing assembly having a compressible member in a housing each having planar engagement surfaces and a spring used for a preloading mechanism. However, Applicant does not disclose a depression in the planar surface normal to the axis. Bent teaches a seal assembly for use with a rotating or reciprocating shaft (col. 1, lines 1-5) having a seal element within a housing. Bent teaches a groove or depression 7 formed in "at least one wall" of the groove (see col. 1, lines 29-31). The annular groove receives the compressible material of the seal when a fluid pressure is exerted on a side of the seal. Bent teaches the groove prevents excess friction between the seal and shaft and teaches the seal is restrained from movement relative to the housing. Although Bent teaches the groove can be in at least one wall, Bent does not appear to disclose that the groove is in the planar wall normal to the axis of the shaft. Chrzanowski teaches a seal assembly having a seal in a housing. The seal is exposed to a fluid pressure that urges it in mating contact with a surface of the housing. The housing has a relief depression 40 that receives the seal material to prevent excess friction under the pressure and restrains the seal. Chrzanowski teaches the depression can be formed in either wall 27 or 25, as art equivalent locations. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the housing of the prior art with a groove as taught by Bent to reduce friction, restrict movement, and improve the life of the seal wherein the groove is located in the planar wall normal to the axis as such is an art equivalent location as taught by Chrzanowski.

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Regarding claims 4-6 and 12-15, Bent does not disclose plural grooves. The duplication of parts is considered obvious absent a showing of new and unexpected results. See *In re Harza*, 124 USPQ 378 (CCPA 1960). Further, it is known to provide plural relief depressions as evidenced by Jesswein '405. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide plural grooves.

5. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller in view of Kalsi (4,610,319).

Although Muller discloses the seal can be used in a variety of application including high pressure environments, Muller does not specifically disclose the seal is used in drilling apparatus. Kalsi teaches it is known to use a seal in a drilling apparatus to isolate lubricating fluid from drilling fluid. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the seal of Muller in a drilling apparatus to provide an effective and long lasting seal between the fluids.

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

The Kalsi and Dietle references provide additional evidence of prior art seals used in drilling applications having seals and housing with planar mating surfaces. Muller, Bent, and Chrzanowski teach that it is known to use a depression to reduce wear AND restrain movement between a seal and housing. Chrzanowski also teaches art equivalent locations for the depression. Although not used above, it is submitted that Endicott could still be modified with

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these teachings. The motivation is to reduce the friction against the shaft when the seal is exposed to a high fluid pressure as well as restrain movement.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 571-272-7062. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tricia Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alison K. Pickard
Primary Examiner
Art Unit 3673

AP